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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,079	10/31/2005	Nobuo Kimizuka	TAW-012US	4214

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EXAMINER	
KAHN, RACHEL	

ART UNIT	PAPER NUMBER
1796	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/524,079	KIMIZUKA ET AL.	
	Examiner	Art Unit	
	RACHEL KAHN	1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-7 and 9-22* is/are pending in the application.

4a) Of the above claim(s) *10-22* is/are withdrawn from consideration.

5)☒ Claim(s) *3-6 and 9* is/are allowed.

6)☒ Claim(s) *1,2 and 7* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *08 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *2/8/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Claims 8 and 10-22 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected group, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 5/11/09.

Applicant's election with traverse is acknowledged. The traversal is on the ground(s) that there would be no burden in searching all of the claims, as they are interrelated. This is not found persuasive because the restriction requirement for 371 applications is governed by Unity of Invention, as set forth by PCT Rule 13 (MPEP 1850). Applicant's argument regarding burden is moot, as no such requirement exists for this application. Applicant has not argued that Unity of Invention does not exist, as set forth in the requirement for restriction dated 4/14/09.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by **Cheung** et al (in Conj Polym Mater, 1990).

Cheung teaches a multilayer film consisting of well ordered, highly aligned stacks of stearic acid molecules (amphiphilic compounds) throughout which domains of conducting polymer are dispersed (poly(3-alkyl thiophenes) (p 92, 3rd paragraph). Claim 1 contains product by process limitations. Cheung discloses a composition that appears to be the same as the product set forth in a product-by-process claim, although it was produced by a different process. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. If the product in the product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See **In re Marosi**, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and **In re Thorpe**, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by **Murphy** et al (US 6210537).

Murphy discloses a polypyrrole film which is flexibilized by incorporating a surfactant, such as dodecyl sulfate (which is amphiphilic) (col 6, lines 20-30). Murphy discloses a composition that appears to be the same as the product set forth in a product-by-process claim, although it was produced by a different process. Product-by-process claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. If the product in the product-by-process claim is the

same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. See **In re Marosi**, 710 F.2d 799, 218 USPQ 289 (Fed. Cir. 1983) and **In re Thorpe**, 777 F.2d 695, 227 USPQ 964 (Fed. Cir. 1985). See also MPEP §2113.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 2 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Asakuma** et al (JP 06-041532; machine translation cited herein) in view of **Charych** et al (US 6017390).

Asakuma discloses a uniform and regular bilayer membrane with molecular level organization obtained by mixing monomer with an amphiphilic compound (referred to as "tallow") and polymerizing the monomer (page 2, bottom half). Compound (c), shown on page 3, fulfills the recitations of claims 1, 2 and 7 for a cationic amphiphilic compound comprising an alkyl group having 10 or less carbon atoms (Asakuma teaches that m is 2-10; p 3).

Asakuma teaches that the monomer to be polymerized may be any polymerizable monomer, such as an acrylic, methacrylic, vinyl ether, vinyl sulfone or

styrene monomer (p 3, middle). Asakuma fails to teach the monomers recited in independent claim 1: pyrrole, thiophene or AMPS.

Charych teaches that alignment and orientation in films is important for many applications, such as in films with magnetic, optical and electrical functions (col 1, lines 15-23). Charych teaches that such aligned films can be formed from self-assembling monomers to produce a thin film, and then polymerizing the film (col 2, lines 55-65). As exemplary self-assembling monomers, Charych teaches methacrylates and vinyl ether, as well as thiophenes, acrylamides and pyrroles (col 3, lines 1-5).

In view of Charych's recognition that methacrylates and vinyl ether are functionally equivalent and interchangeable with thiophenes, pyrroles and acrylamides, it would have been obvious to one of ordinary skill in the art to substitute the monomers taught by Asakuma with thiophene, acrylamide or pyrrole (as taught by Charych) and thereby arrive at the present invention. Case law holds that the mere substitution of an equivalent (something equal in value or meaning, as taught by analogous prior art) is not an act of invention; where equivalency is known to the prior art, the substitution of one equivalent for another is not patentable. See In re Ruff 118 USPQ 343 (CCPA 1958).

Allowable Subject Matter

Claims 3-6 and 9 are allowed.

A structure search was performed and few references were found which contain the amphiphilic compound of independent claim 3. The closest prior art are considered to be the following:

1. Kimizuka et al (US 6576679) (''679")

2. Kimizuka et al, AFM observation of organogel nanostructures on graphite in the gel assisted transfer technique, Chemistry Letters, 1998, p 967. ("Kimizuka")

'679 teaches that the amphiphilic compound of instant claim 3 is used to form a gel obtained by self assembly of the amphiphilic compound of formula (I) and an anion having a molecular weight of 90 or more. '679 neither teaches nor suggests subsequently polymerizing the anions once in the hydrogel form.

Kimizuka teaches providing an ultrathin layer of the amphiphilic compound of instant claim 3 on a highly oriented graphite surface. Kimizuka neither teaches nor suggests incorporating monomeric compounds in the gel, nor does Kimizuka teach any polymerization.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to RACHEL KAHN whose telephone number is (571)270-

7346. The examiner can normally be reached on Monday to Friday 8:00 am to 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/RACHEL KAHN/
Examiner, Art Unit 1796

Rk

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796